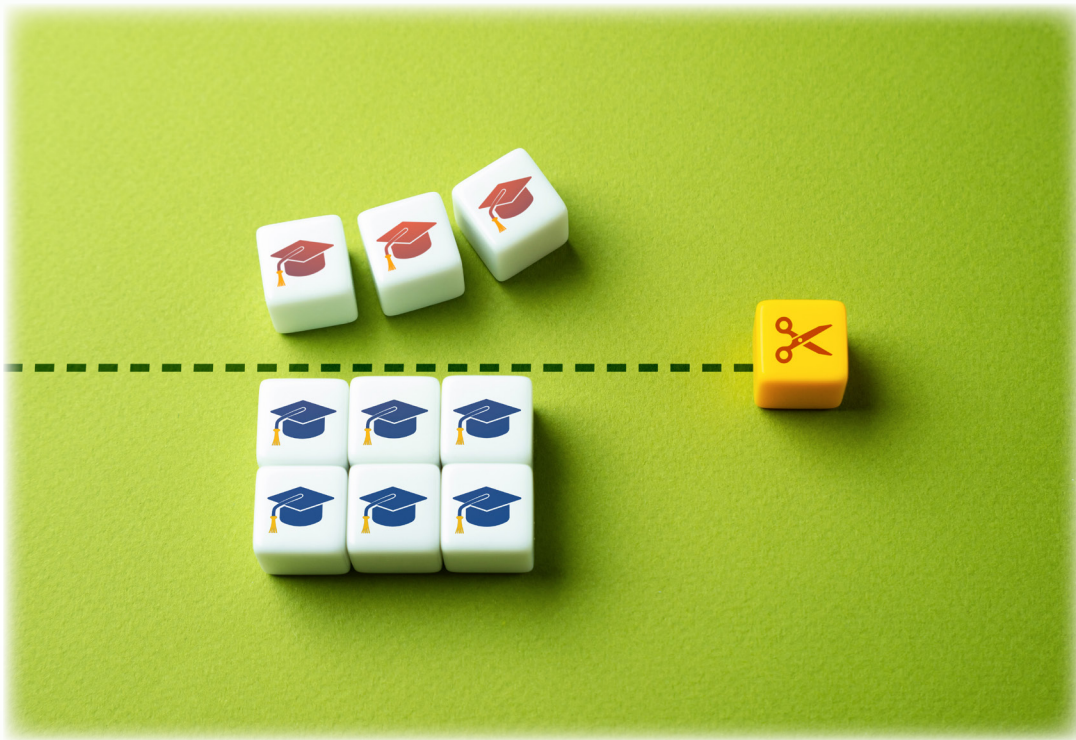


NEPC Review: Wisconsin's Most Cost-Effective K-12 Program (School Choice Wisconsin, August 2025)



Reviewed by:

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October 2025

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Suggested Citation: Baker, B.D. (2025). *NEPC Review: Wisconsin's most cost-effective K-12 program*. Boulder, CO: National Education Policy Center. Retrieved [date] from <https://nepc.colorado.edu/review/cost-effective>

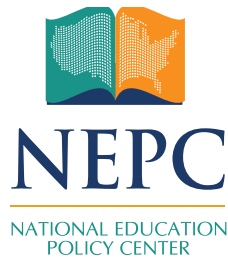
Funding: This review was made possible in part by funding from the Great Lakes Center for Educational Research and Practice.



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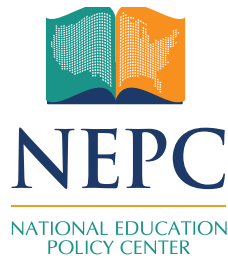
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Summary

As one of the longest running programs of its type, Wisconsin's private school voucher program has garnered decades of research interest, including a recent research report from School Choice Wisconsin, boldly titled *Wisconsin's Most Cost-Effective K-12 Program*. The report concludes that voucher-receiving schools in three studied areas (Racine, Milwaukee and statewide) are far more cost effective than public district schools. It compares revenues and student outcomes for public district schools with private, voucher-receiving schools and finds that in all three settings the private schools generate better outcomes for each \$1,000 of revenue per pupil. However, the report's analyses go beyond being simply flawed. They are flat-out wrong. A flawed analysis selects the correct method for addressing a question, but implements it problematically—perhaps using inaccurate or imprecise measures for use within an appropriate framework. A wrong analysis selects an inappropriate method altogether. Cost-effectiveness ratios are wholly insufficient for determining the relative efficiency or productivity of educational institutions serving non-randomly distributed student populations. That said, even if one did accept the unfounded premise that a simple cost-effectiveness ratio is appropriate for the report's comparisons, implementation flaws—imprecision and inaccuracy in reported spending, outcome, and demographic comparisons—severely undermine the findings. Put bluntly, School Choice Wisconsin has conducted the wrong analysis done the wrong way. The report is of no use for informing policy in Wisconsin or elsewhere.



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I. Introduction

As policymakers in conservative states steadily expand taxpayer-funded private school choice programs, the need for reliable research helping leaders to better understand those programs' relative costs and actual (versus predicted) outcomes becomes increasingly urgent. Effective policies and programs are founded on realities, not rhetoric.

For this reason, and because it is one of the longest running programs of its type, the Wisconsin private school voucher program has been the subject of much research interest—with both rigorous and unsound studies producing a wide range of findings over decades. Expanding on prior, similar analyses,¹ a recent report from School Choice Wisconsin compares revenues and outcomes for public district schools with private, voucher-receiving schools statewide and in Milwaukee and Racine. Boldly titled *Wisconsin's Most Cost-Effective K-12 Program*, the report claims to have determined the relative cost effectiveness of those schools in all three settings. Given the appeal of the claim, it's important to take a close look at this study.²

II. Findings and Conclusions of the Report

The report's conclusion is that the state of Wisconsin's private school choice programs in all three targeted locales are far more cost effective than their public district counterparts. As summarized in the report:

Dollars spent at a PSCP [Parental School Choice Program] school con-

sistently produce a higher DPI [state Department of Instruction] Report Card score than at public schools. Results are for 2023-24, the first year following a significant funding increase approved by the Legislature and Governor for PSCP schools. Despite a 23 percent average increase, PSCP schools continue to operate with substantially less revenue than public schools. Yet DPI data show PSCP schools with higher Report Card scores.³

The report asserts that its calculations produced a “straightforward cost-effectiveness index (CEI)” leading to the findings that in 2023-24:

- Private schools in the Milwaukee Parental Choice Program (MPCP) were **76 percent** more productive than schools in the Milwaukee Public Schools (MPS).
- Private schools in the Racine Parental Choice Program (RPCP) were **46 percent** more productive than public schools in the Racine Unified School District (RUSD).
- Private schools in the statewide Wisconsin Parental Choice Program (WPCP) were **33 percent** more productive than public schools outside of Milwaukee and Racine (emphasis in original).⁴

III. The Report’s Rationale for Its Findings and Conclusions

The report bases its findings on cost-effectiveness indices (CEI) it calculates for both public district schools and voucher-accepting private schools in each geographic area. The report’s methodology yields cost-effectiveness ratios expressed in terms of Department of Public Instruction (DPI) Report Card points per \$1,000 revenue per pupil, based on state report card data and a revenue calculation. The report then compares CEI ratios of schools in each sector to demonstrate that in each location private schools accepting vouchers are more cost effective than public district schools.

IV. The Report’s Use of Research Literature

The report relies on only scant literature, including prior studies on the Wisconsin choice program by voucher advocates. Little discussion is provided on the methods or specific findings of those studies. For example, the report simply notes:

The SCW findings here, and in 2023, reinforce a 2019 study (see citation in References) by Corey DeAngelis, Ph.D., a scholar whose research has appeared in: *Social Science Quarterly*; *School Effectiveness and School Improvement*; *Educational Review*; *Peabody Journal of Education*;

Journal of School Choice; and *Journal of Private Enterprise*.

And further, with apparently no connection to the topic of cost effectiveness, the report includes that:

Separate scholarship, by Patrick Wolf, Ph.D., and DeAngelis, examined ‘the effects of Milwaukee’s school voucher program on adult criminal activity and paternity suits...[It finds] that exposure to the program ... is associated with a reduction of around 53 percent in drug convictions, 86 percent in property damage convictions, and 38 percent in paternity suits. The program effects tend to be largest for males and students with lower levels of academic achievement at baseline.’

The report also refers to “A study for the Annenberg Institute (Brown University)” as finding that

As of 2018, [Milwaukee choice] students have spent more total years in a four-year college than their MPS peers. The MPCP students in the grade three through eight sample attained college degrees at rates that are statistically significantly higher than those of their matched MPS peers.⁵

However, this is not some independent study from the Annenberg Institute at Brown University as it likely appears to readers. Rather, it is a working paper also by Wolff and colleagues submitted to the Ed Working Papers site that is simply hosted by the Annenberg Institute.

Also, when comparing rates of children with disabilities attending private schools and district schools, the report refers to sources (discussed later) not listed in its references to assert that disability rates in the private schools are much higher than reported. In addition, the report references (though doesn’t cite) another source which an earlier NEPC review found to be useless to policymakers because of “findings based on conjecture,” which “relied on survey data from private school leaders estimating disability rates, rather than DPI’s legal definitions and procedural requirements.”⁶

The report also fails to include any of the vast literature that exists to inform the correct selection and implementation of methods and measures for conducting cost-effectiveness analysis: literature on when/whether cost-effectiveness analysis is appropriate as opposed to comparing relative institutional efficiency⁷; literature on how to conduct cost-effectiveness analysis, if appropriate⁸; literature on generating comparable measures of education revenue or spending with consideration of costs⁹; literature on generating comparable measures of student outcomes across sectors¹⁰; or prior literature applying best methods for comparing cost effectiveness or efficiency across schooling sectors.¹¹

V. Review of Report's Methods

The report asserts that calculations constituted a “conservative” method for comparing cost effectiveness because they exclude federal revenue and understate resources available to public schools, and they compare outcomes for voucher-receiving students from income-limited families with public school students from all income groups.

A two-step process yielded findings:

Step 1: Calculate CEI: $\text{DPI Report Card Score} / \text{Per-Pupil Revenue (\$000s)} = \text{CEI}$

Step 2: Calculate a ratio of private school CEI to public district CEI

The ratio calculated in Step 2 presumably indicates cost effectiveness for each type of school, indicating which performs better in terms of report card points per dollar spent.

Whether a cost-effectiveness ratio is the correct method for assessing school performance is discussed below. However, if it were, it would at the very least require appropriate attention to creating comparable measures of a) the revenue calculated across sectors, and b) the outcomes achieved through services provided with that revenue. The report asserts that district revenue is undercounted and private school outcomes are understated. Adequate details on the outcome measures used, and their sourcing, appear in Attachment D.¹²

However, far less detail is provided on the determination of, or sources for, the revenue measures. The private school figure is described as using a) the per-pupil state payment (voucher) and b) funds generated with “private fundraising.” No detailed sourcing is provided for the latter.¹³ Similarly scant detail appears in descriptions of public district revenue. The report simply repeatedly asserts that every step of calculations understates the performance of private schools and overstates their revenues, while concurrently overstating the performance of public district schools and understating their revenues.

Other critical problems in methodology follow, indicating why findings are invalid and conclusions are useless.

VI. Review of the Validity of the Findings and Conclusions

Overall, this report is similar to some earlier reports on the Wisconsin system,¹⁴ which a prior NEPC review has critiqued as having unreliable findings.¹⁵ This report's analyses are not simply flawed: They are flat out wrong. A flawed analysis is

one that generally selects the correct method for addressing the question, but has flawed implementation—perhaps using inaccurate or imprecise measures, but within an appropriate framework. A wrong analysis is one that fails to even select the appropriate method for addressing the question asked. Here, that question is whether one set or sector of institutions more efficiently produces desired student outcomes than another, in their particular context, with the populations served. Following are details on both flaws in the implementation—if the method had been appropriate—and then details on why the methodology is simply wrong.

Flaws: Revenue and Populations

Again, the report provides little detail on either the private or public school revenue figure. Notably, the appropriate figure for making cost-effectiveness comparisons would be a comprehensive total of expenditures on services intended to yield the measured outcomes—in this case, the expenditures on instructional programs and services associated with the academic outcomes included in DPI report cards. However: Revenues for public districts fund a range of community services, including out-of-district placements, summer school, after school, evening and adult education programs, and so on.¹⁶ Many of those expenditures (and/or revenue sources) should not be included in such a comparison.¹⁷ Rather than seeking an accurate figure, however, the report simply claims to have understated public school revenues used in calculations.

Similarly, revenues in private schools may be derived from other tuition-paying students, in-kind contributions of services, equipment, and perhaps church-affiliated staff. Simply adding a prior year's estimate of private giving to the voucher subsidy rate does not capture a relevant, comparable program spending measure useful in this type of analysis.¹⁸

Another issue raised but summarily dismissed is the possibility that the populations served in the private schools differ substantively from those in the public districts. The report presents a table of demographic comparisons in order to declare them unimportant. The report writes off an apparent large difference in disability populations simply by declaring it false, referring to but not actually citing two reports relying on much older data, from 2007-2008 (see next paragraph).¹⁹ At issue is an officially reported figure of 2% children having disabilities in the private schools, compared to about 20% for district schools in Milwaukee. Variations in percentages calculated would substantially affect the costs associated with achieving any given set of outcomes—including the value of the education dollar toward achieving DPI reported outcomes. But the report simply declares the officially reported 2% wrong, citing the correct figure as “between 7.5% and 14.6%” with reference to the School Choice Demonstration Project at the University of Arkansas and earlier work by Wolff and colleagues.

However, the referenced Wolff and colleagues' piece said to be affirmed by later research concluded not simply that the choice program rate was a much higher 11.4 percent, but it also noted that the figure was about half of the 20.4 percent public school figure for students with disabilities **in 2007-2008**.²⁰ So, even if the 2% figure were "wrong" as the report asserts, there is reason to believe that disability rates for private schools are about half those of the public districts—meaning that revenue figures would have had to be significantly adjusted to account for such discrepancy in cost. There is no indication any such adjustment was made in claims of over- and under-estimates in calculations.

The critical problem with the methodology is that a cost-effectiveness ratio is the wrong method for the intended comparison.

Right vs. Wrong Approaches for Comparing Institutional Production and Efficiency

A substantial body of literature a) explains more appropriate methods for comparing the relative productivity and efficiency of schools as whole institutions in context (without randomization), and b) applies those methods to cross-sector analysis where sufficient data are available.

Table 1 provides cursory guidance on which methods are more appropriate for which types of comparisons. It reflects work that I, along with Kevin Welner, have done providing a more thorough explanation of "productivity research" and methods in two separate pieces in 2011, which I then revisit in Chapter 8 of a 2018 book published by Harvard Education Press.²¹

Cost-effectiveness analysis has a place in the evaluation of educational programs and services.²² For example, it is appropriate when comparing two particular interventions intended to affect the same outcome measure, like reading or math achievement. Such analyses are best done in highly controlled settings where a) the treatment or treatments in question—programs, services or interventions—can be clearly defined and identified, and b) where populations can be randomly distributed across treatments and/or interventions, and c) where all other conditions are held constant. It's also important to be able to accurately and precisely measure the intended outcomes, or effects, via pre- and post-testing and to isolate the specific expenditures involved in implementing each treatment, including costs that may have been charged to participants and opportunity costs associated with other things that might have been done with the same time or money. Under these conditions, cost-effectiveness ratios might be generated across two or more alternatives, and compared directly.

But when comparing whole institutions, under real-world circumstances, an entirely

different approach is warranted. When dealing in real-world, non-randomized environments, with whole schools or institutions as units, researchers must a) make every possible effort to control for all of the differences in context and student populations served, and b) accurately and comprehensively measure the spending associated with the delivery of programs and services associated with the outcomes in question. With these considerations in mind, researchers can estimate an education cost model to predict, for each institution, the costs associated with achieving its current levels of outcomes. Then a variety of approaches might be used to determine relative efficiency.²³ A significant body of research has used these methods—cost-efficiency analysis—to evaluate public schooling efficiency and to compare public and charter schools.²⁴

Table 1. Cost-Effectiveness vs. Cost-Efficiency Analysis

Unit of Comparison	Design	Outcome / Effect Measurement	Input Measurement	Related Variables to Consider?	Estimation Method
Program or Intervention	Randomized Controlled Trials (no differences between groups across interventions)	Pre-Post Gain (on relevant outcome measures)	Spending and opportunity costs of program or intervention	If truly randomized across all comparisons and dimensions: none	Cost-Effectiveness, or C/E, ratio
Institution	Real World Contexts (non-random distribution of students or contexts)	Achievement / Attainment / Value Added ²⁵	Comprehensive (inclusive) measure of institutional spending on comparable scope of services ²⁶	Student Characteristics / Economies of Scale / Sparsity / Economic Context ²⁷	Cost efficiency ²⁸ (Education Cost Model)

In the U.S. context, these methods have not generally been applied in comparisons of public and private schools, including for private school voucher programs, for lack of a) comparable data on outcomes, and b) sufficiently detailed and comparable data on spending on instructional programs and services.²⁹ The report critiqued here also lacks comparable data on outcomes (for all students in each type of school) and comparable data on spending on the relevant scope or programs and services. Under the circumstances, then, the cost efficiency approach is not feasible. That said: That determination does not allow substituting this report's entirely inappropriate and misleading comparison.

VII. Usefulness of the Report for Guidance of Policy and Practice

Ignoring a vast body of literature that would inform more serious, credible analysis and implementing an inappropriate method with substantive flaws, this report provides no useful evidence for guiding policy and practice.

Notes and References

- 1 See, for example: DeAngelis, C.A. (2019, May 14). *A wise investment: The productivity of public and private schools of choice in Wisconsin*. School Choice Wisconsin. Retrieved September 12, 2025, from <https://schoolchoicewi.org/news/research/return-on-investment>
- 2 School Choice WI. (2025, August). *Wisconsin's most cost-effective K-12 program*. Retrieved September 12, 2025, from <https://schoolchoicewi.org/wp-content/uploads/2025/08/Wisconsins-Most-Cost-Effective-K-12-Program.pdf>
- 3 School Choice WI. (2025, August). *Wisconsin's most cost-effective K-12 program* (p. 1). Retrieved September 12, 2025, from <https://schoolchoicewi.org/wp-content/uploads/2025/08/Wisconsins-Most-Cost-Effective-K-12-Program.pdf>
- 4 School Choice WI. (2025, August). *Wisconsin's most cost-effective K-12 program* (p. 1). Retrieved September 12, 2025, from <https://schoolchoicewi.org/wp-content/uploads/2025/08/Wisconsins-Most-Cost-Effective-K-12-Program.pdf>
- 5 School Choice WI. (2025, August). *Wisconsin's most cost-effective K-12 program* (p. 2). Retrieved September 12, 2025, from <https://schoolchoicewi.org/wp-content/uploads/2025/08/Wisconsins-Most-Cost-Effective-K-12-Program.pdf>
- 6 One of the pieces cited by the authors is critiqued here:

Lewis, M.M. & Mead, J.F. (2025). *NEPC Review: Thousands served: Students with disabilities in Wisconsin's parental choice programs*. Boulder, CO: National Education Policy Center. Retrieved September 12, 2025, from <https://nepc.colorado.edu/review/disability>

See also endnote #19.
- 7 Baker, B.D. & Welner, K.G. (2011). *Productivity research, the U.S. Department of Education, and high-quality evidence*. Boulder, CO: National Education Policy Center. Retrieved September 12, 2025, from <http://nepc.colorado.edu/publication/productivity-research>

Baker, Bruce D. (2025). *Framework for evaluating & reforming education finance systems*. (EdWorkingPaper: 25 -1127). Annenberg Institute at Brown University. Retrieved September 12, 2025, from <https://doi.org/10.26300/pa0r-n548>

Baker, B.D. (2021). *Educational inequality and school finance: Why money matters for America's students*. Harvard Education Press.

Bifulco, R. & Duncombe, W. (1999). Evaluating school performance: Are we ready for prime time? *Developments in School Finance, 2000*, 9-28.
- 8 Levin, H.M. (1988). Cost-effectiveness and educational policy. *Educational Evaluation and Policy Analysis, 10*(1), 51-69.

Levin, H.M., McEwan, P.J., Belfield, C., Bowden, A.B., & Shand, R. (2017). *Economic evaluation in education: Cost-effectiveness and benefit-cost analysis*. SAGE Publications.
- 9 Baker, B.D., Libby, K., & Wiley, K. (2015). Charter school expansion and within-district equity: Confluence or conflict?. *Education Finance and Policy, 10*(3), 423-465.

Atchison, D., Levin, J., & de los Reyes, I.B. (2018). Study of spending in public charter and

traditional schools in California: Making research relevant. *American Institutes for Research*. Retrieved September 12, 2025, from <https://files.eric.ed.gov/fulltext/ED594803.pdf>

Baker, B.D. (2009). *Private schooling in the US: Expenditures, supply, and policy implications*. Retrieved September 12, 2025, from <https://nepc.colorado.edu/sites/default/files/PB-Baker-PvtFinance.pdf>

- 10 Lubienski, C.A. & Lubienski, S.T. (2013). *The public school advantage: Why public schools outperform private schools*. University of Chicago Press.
- 11 Gronberg, T.J., Jansen, D.W., & Taylor, L.L. (2017). Are charters the best alternative? A cost frontier analysis of alternative education campuses in Texas. *Southern Economic Journal*, 83(3), 721-743.

Gronberg, T.J., Jansen, D.W., & Taylor, L.L. (2012). The relative efficiency of charter schools: A cost frontier approach. *Economics of Education Review*, 31(2), 302-317.

Bifulco, R. & Bretschneider, S. (2001). Estimating school efficiency: A comparison of methods using simulated data. *Economics of Education Review*, 20(5), 417-429.

Ruggiero, J. (2007). A comparison of DEA and the stochastic frontier model using panel data. *International Transactions in Operational Research*, 14(3), 259-266.
- 12 The report explains its two “measures of effectiveness” as follows:

DPI Report Cards. The DPI Report Card is the principal measure of effectiveness used in this report. Per the DPI, Report Card scores reflect “data on multiple indicators for multiple years across four Priority Areas (Achievement, Growth, Target Group Outcomes, and On-track to Graduation).” The overall scores rank public and private choice schools on a scale of 0-100. As described in Attachment A, this report uses the overall numeric Report Card score to calculate a CEI.” Attachment D Bibliographic info for above quote?

ACT Results. This report also provides comparative data on the college-readiness ACT test. This is an additional measure of effectiveness. The DPI data allow for PSCP and school public comparisons (p. 3).

Detail for accessing DPI data is provided in Attachment D (pp. 11-12).

School Choice WI. (2025, August). *Wisconsin’s most cost-effective K-12 program* (pp. 3, 11-12). Retrieved September 12, 2025, from <https://schoolchoicewi.org/wp-content/uploads/2025/08/Wisconsins-Most-Cost-Effective-K-12-Program.pdf>

- 13 The report notes: “based on pre-audited information provided to SCW from 2021-22 (last year available). The fundraising estimate likely overstates actual private revenue, given a reduced need for fundraising based on higher voucher payments approved in 2023.”

Attachment B provides these descriptions:

Private school revenue. Revenue for students in choice programs consists mainly of state per pupil payments. Many PSCP schools supplement the state payments with private fundraising. This report uses (1) the average state payment to private schools and (2) an estimate of private fundraising based on pre-audited information provided to SCW from 2021-22 (last year available). The fundraising estimate likely overstates actual private revenue, given a reduced need for

fundraising based on higher voucher payments approved in 2023.

Public school revenue. The DPI reports public school revenue from four sources: (1) state aid; (2) local property taxes; (3) federal aid; and (4) local non-property tax revenue. In calculating the CEI, this report uses only the first two. It excludes federal aid and non-property tax revenue available to public schools. (It also excludes private donations received by public schools. An example of this can be found in a recent article published by Wisconsin Public Radio on May 12, 2025. The article described a donation of \$500,000 to Milwaukee Public Schools by the Greater Milwaukee Committee.)

School Choice WI (2025, August). *Wisconsin's most cost-effective K-12 program* (p. 8). Retrieved September 12, 2025, from <https://schoolchoicewi.org/wp-content/uploads/2025/08/Wisconsins-Most-Cost-Effective-K-12-Program.pdf>

- 14 See, for example: DeAngelis, C.A. (2019, May 14). *A wise investment: The productivity of public and private schools of choice in Wisconsin*. School Choice Wisconsin. Retrieved September 21, 2025, from <https://schoolchoicewi.org/news/research/return-on-investment>

School Choice Wisconsin (2023, August). *The cost-effectiveness of Wisconsin's private school choice programs*. Retrieved September 15, 2023, from <https://schoolchoicewi.org/wp-content/uploads/2023/08/The-Cost-Effectiveness-of-Wisconsins-Private-School-Choice-Programs.pdf>

- 15 See, for example: Kotok, S. (2023). *NEPC Review: The cost-effectiveness of Wisconsin's private school choice programs*. Boulder, CO: National Education Policy Center. Retrieved September 21, 2025, from <https://nepc.colorado.edu/review/wisconsin-vouchers>

- 16 Baker and Knight explain that much of what is reported as public district expenditure is not allocated to the delivery of programs and services for children served, who are counted in the denominator of “per-pupil spending” calculations, thus, overstating district per pupil spending on those students and doing so with patterns of bias by poverty and location. They summarize that:

On average, about 85 percent of total spending goes toward current annual operations, but current annual operating spending still includes spending on non-instructional programs and activities (for others) and payments or transfers to other agencies.

About 5 to 6 percent of total spending is transferred to other institutions. In higher-poverty school districts, it's about 7.5 percent.

About 0.8 to 0.9 percent of total spending is on non-elementary and non-secondary programs (those that don't serve the current student population); it is slightly higher (roughly 1 percent) in high-poverty districts.

Capital spending constitutes about 10 to 12 percent of total spending in lower-poverty school districts but less than 8 percent in high-poverty districts.

Baker, B.D., & Knight, D. (2025). *Does money matter in education?* Albert Shanker Institute. Retrieved September 12, 2025, from https://www.shankerinstitute.org/sites/default/files/2025-01/moneymatters3rdedition_final.pdf

- 17 For example, imagine a school district leases space to community groups—generating revenue for leasing that space. But the district spends that money on the utilities for and maintenance of the space in question, for the time used. By the report's calculation, those revenues go into a

pot that is divided by the enrolled students and declared part of the district's revenue per pupil—presumptively useable for providing educational programs and services. The report's approach, choosing a gross revenue figure rather than an expenditure figure on the relevant scope of programming, conveys a complete misunderstanding of public budgeting and finance.

- 18 For a more comprehensive discussion of voucher subsidy rates versus “costs” and expenditures, see:

Baker, B.D., Black, D., Cowen, J., Green, P.C. III, & Jennings, J.L. (2025). *A framework for evaluating and reforming school vouchers* (EdWorkingPaper: 25-1142). Annenberg Institute at Brown University. Retrieved September 12, 2025, from <https://doi.org/10.26300/cx43-tr11>

- 19 According to the report:

Exhaustive independent research on the MPCP addressed the question of participation by special needs students. The work was directed by John Witte, Ph.D., of the University of Wisconsin and Patrick Wolf, Ph.D., of the University of Arkansas as part of the School Choice Demonstration Project. They estimated the disability rate of the MPCP was between 7.5% and 14.6%.

Additionally, SCW and the Wisconsin Institute for Law & Liberty have more recently investigated the topic twice (see references). Their reports reaffirmed Witte's and Wolf's earlier work.

- 20 School Choice WI. (2025, August). *Wisconsin's most cost-effective K-12 program* (p. 5). Retrieved September 12, 2025, from <https://schoolchoicewi.org/wp-content/uploads/2025/08/Wisconsins-Most-Cost-Effective-K-12-Program.pdf>

Wolf, P.J., Witte, J.F., & Fleming, D.J. (2012). Special Choices: Do voucher schools serve students with disabilities? *Education Next*, 12(3), 16-22. Retrieved September 12, 2025, from https://www.educationnext.org/wp-content/uploads/2023/02/ednext_XII_3_wolf_et_al.pdf

The only related work cited by the authors:

Wolf, P.J., Witte, J.F., & Kisida, B. (2019). *Do voucher students attain higher levels of education? Extended evidence from the Milwaukee Parental Choice Program*. (EdWorkingPaper: 19-115). Annenberg Institute at Brown University. Retrieved September 12, 2025, from <http://www.edworkingpapers.com/ai19-115>

- 21 Baker, B.D. & Welner, K.G. (2011). *Productivity research, the U.S. Department of Education, and high-quality evidence*. Boulder, CO: National Education Policy Center. Retrieved September 12, 2025, from <https://nepc.colorado.edu/publication/productivity-research>

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Baker, B.D. (2018). *Educational inequality and school finance: Why money matters for America's students*. Harvard Education Press.

- 22 Levin, H.M. (1988). Cost-effectiveness and educational policy. *Educational Evaluation and Policy Analysis*, 10(1), 51-69.

Levin, H.M., McEwan, P.J., Belfield, C., Bowden, A.B., & Shand, R. (2017). *Economic evaluation in education: Cost-effectiveness and benefit-cost analysis*. SAGE publications.

Levin, H.M. (1974). Measuring efficiency in educational production. *Public Finance Quarterly*, 2(1),

3-24.

- 23 Baker, B.D. (2025). *Framework for evaluating & reforming education finance systems*. (EdWorkingPaper: 25 -1127). Annenberg Institute at Brown University. Retrieved September 12, 2025, from <https://doi.org/10.26300/paor-n548>
- 24 Gronberg, T.J., Jansen, D.W., & Taylor, L.L. (2012). The relative efficiency of charter schools: A cost frontier approach. *Economics of Education Review*, 31(2), 302-317.

Gronberg, T J., Jansen, D.W., & Taylor, L.L. (2017). Are charters the best alternative? A cost frontier analysis of alternative education campuses in Texas. *Southern Economic Journal*, 83(3), 721-743.

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